

Mr. Ron Weston
Sintering Technologies, Inc.
P.O. Box 588
Greensburg, Indiana 47240

Re: Exempt Construction and Operation Status,
031-11922-00017

Dear Mr. Weston:

The application from Sintering Technologies, Inc., received on February 23, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following, to be located at 1024 Barachel Lane, Greensburg, Indiana, is classified as exempt from air pollution permit requirements:

- (a) one (1) 15 gallon per hour evaporator designated Evaporator No. 1, fired by natural gas with a maximum heat input rate of 0.195 million British thermal units per hour (MMBtu/hr); and
- (b) one (1) 63 gallon per hour evaporator designated Evaporator No. 2, fired by natural gas with a maximum heat input rate of 0.750 million British thermal units per hour (MMBtu/hr).

The following condition shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
 - (a) Visible emissions shall not exceed an average of forty percent (40%) opacity in twenty-four (24) consecutive readings.
 - (b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

This exemption is the second air approval issued to this source. An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

JKJ

cc: File - Decatur County
Decatur County Health Department
Air Compliance - Warren Greiling
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for Exempt Construction and Operation

Source Background and Description

Source Name: Sintering Technologies, Inc.
Source Location: 1024 Barachel Lane, Greensburg, Indiana 47240
County: Decatur
SIC Code: 3714
Exemption No.: 031-11922-00017
Permit Reviewer: Janusz Johnson

The Office of Air Management (OAM) has reviewed an application from Sintering Technologies, Inc., relating to the construction and operation of the following evaporating units for reducing mop water waste volume:

- (a) one (1) 15 gallon per hour evaporator designated Evaporator No. 1, fired by natural gas with a maximum heat input rate of 0.195 million British thermal units per hour (MMBtu/hr); and
- (b) one (1) 63 gallon per hour evaporator designated Evaporator No. 2, fired by natural gas with a maximum heat input rate of 0.750 million British thermal units per hour (MMBtu/hr).

Permitted Emission Units and Pollution Control Equipment

The source also includes the following permitted emission units and pollution control devices:

CP 031-4144-00017, issued on January 5, 1995.

A sintered metal operation for automobile components with a total process weight rate of 7,600 pounds per hour including the following facilities:

- (a) three (3) double cone mixers (250, 500, and 1000 kilograms capacity);
- (b) hopper operations, with two (2) baghouses, designated as PCD₁ and PCD₂;
- (c) thirteen (13) presses, ranging from 40 to 880 tons, with three (3) baghouses, designated as PCD₃, PCD₄, and PCD₅;
- (d) thirteen (13) natural gas furnaces, total capacity of 3.54 MMBtu/hr;
- (e) six (6) lathes; and
- (f) raw material storage, carboy method of handling and FK trucks storage, with capacity ranging from 0.2 to 50 tons.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S1	Evaporator No. 1	35	0.4	24	200
S2	Evaporator No. 2	35	0.7	102	200

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on February 23, 2000.

Emission Calculations

See Appendix A of this document for detailed combustion emissions calculations (2 pages).

The following calculations of volatile organic compound (VOC) emissions from the evaporation of mop water are based on test results submitted by the applicant:

VOC content of mop water sampled, as determined by EPA test method 8015B for Gasoline Range Organics, was 44 mg/L (assuming the density of the water is unchanged by the substance, this is approximated as 0.0044 weight percent).

Total evaporator combined throughput is 78 gallons per hour and it is assumed that the mop water has a density of 8.34 lbs/gal, therefore:

$$78 \text{ gal mop water/hr} * 8.34 \text{ lb mop water/gal} * 0.0044\% \text{ VOC} = 0.0286 \text{ lbs VOC/hr}$$

$$0.0286 \text{ lbs VOC/hr} * 8760 \text{ hrs/yr} * 1 \text{ ton}/2000 \text{ lbs} = 0.125 \text{ ton VOC/yr}$$

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO ₂	0.0
VOC	0.1
CO	0.3
NO _x	0.4

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each regulated air pollutant are is less than the emission threshold establishing the requirement to have a registration or permit under 326 IAC 2; therefore, the facilities are exempt pursuant to 326 IAC 2-1.1-3.

Registration Determination

326 IAC 2-5.5 (Registrations)

This existing source, including the emissions from this approval and the previous exemption (CP-031-4144-00017), is still not subject to the Registration requirements because the potential to emit (PTE) of:

- (a) particulate matter (PM) and particulate matter less than 10 microns (PM10) is each less than 5 tons per year,
- (b) sulfur dioxide (SO₂), nitrogen oxides (NO_x) and volatile organic compounds (VOC) is each less than 10 tons per year, and
- (c) carbon monoxide (CO) is less than 25 tons per year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Visible emissions shall not exceed an average of forty percent (40%) opacity in twenty-four (24) consecutive readings.
- (b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

Conclusion

The construction and operation of the two (2) evaporators are exempt from the registration and permitting requirements as detailed in the attached proposed **Exemption No. 031-11922-00017**.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

**Company Name: Sintering Technologies, Inc.
 Address City IN Zip: 1024 Barachel Lane, Greensburg, IN 47240
 CP: 031-11922
 Pit ID: 031-00017
 Reviewer: Janusz Johnson
 Date: April 6, 2000**

Heat Input Capacity Potential Throughput
 MMBtu/hr MMCF/yr

0.9

8.3

Evaporator No.1= 0.195 MMBtu/hr

Evaporator No.2 = 0.75 MMBtu/hr

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.0	0.0	0.0	0.4	0.0	0.3

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
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 MM BTU/HR <100
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 HAPs Emissions**

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HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	8.692E-06	4.967E-06	3.104E-04	7.450E-03	1.407E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	2.070E-06	4.553E-06	5.795E-06	1.573E-06	8.692E-06

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.